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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,882	06/30/2006	Hanno Tautz	LINDE-0637	3893
23599 7590 11/20/2008 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
EXAMINER				
PEREIRO, JORGE ANDRES				
ART UNIT		PAPER NUMBER		
3743				
MAIL DATE		DELIVERY MODE		
11/20/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,882

Applicant(s)

TAUTZ, HANNO

Examiner

JORGE PEREIRO

Art Unit

3743

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1.5-12 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1.5-12 and 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

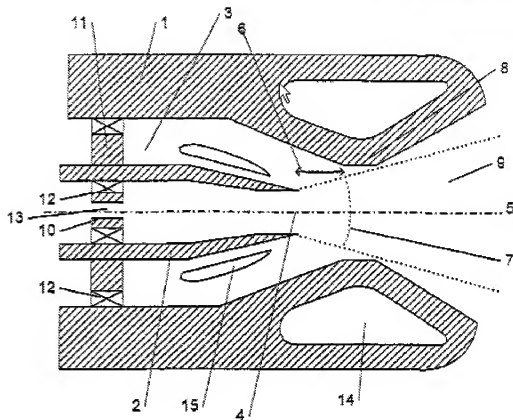
2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 5-12 and 15-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/42686 A1 to Ranke et al. ("Ranke").
4. In re Claim 1, with reference to figure 1 below, Ranke discloses a combustible gas burner comprising a burner head (1) and inner (2) and outer (3) coaxial gas supply channels for the combustible gas and for a gas containing oxygen that are located in the burner head.

Fig. 1

Ranke



5. However, Ranke does not disclose the channel for oxygen containing gas having a cross sectional area of 0.8 to 1.8 times the cross sectional area of the channel for combustible gas, and wherein the burner head, at least in the area of coaxial exit ends of the coaxial gas supply channels, consists essentially of steel optionally alloyed with aluminum as a base, said base being coated with aluminum.

6. Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ranke wherein the channel for oxygen containing gas having

a cross sectional area of 0.8 to 1.8 times the cross sectional area of the channel for combustible gas, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*See for example* US Patent 3,680,999, particularly col. 5, lines 20-25).

7. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ranke wherein at least in the area of coaxial exit ends of the coaxial gas supply channels, consists essentially of steel optionally alloyed with aluminum as a base, said base being coated with aluminum, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. (*See for example* US Patent 3,091,548 and US Patent Application Publication 2003/0031972).

8. In re Claim 5, with reference to figure 1 above, Ranke discloses all of the claim limitations including wherein at least one of the gas supply channels (3), comprises a vane (15) therein that stabilizes gas flow.

9. In re Claim 6, with reference to figure 1 above, Ranke discloses all of the claim limitations including wherein the vane (15) is set back relative to the exit ends (4, 6) of the coaxial gas supply channels (2, 3).

10. In re Claim 7, Ranke discloses all of the claim limitations except for wherein the incline of the vane is adjustable.

11. Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ranke wherein the incline of the vane is adjustable, since it

has been held that the provision of adjustability, where needed, involves routine skill in the art .

In re Stevens, 101 USPQ 284 (CCPA 1954). (*See for example* US Patent 4,457,241).

12. In re Claim 8, with reference to figure 1 above, Ranke discloses all of the claim limitations including wherein supply channels for the combustible gas (3) and the gas containing oxygen (2) are inner and outer tubes arranged coaxially to one another.

13. In re Claim 9, with reference to figure 1 above, Ranke discloses all of the claim limitations including comprising means (10, 11) for producing a swirl flow in the gas supply channels.

14. In re Claims 10 and 22, with reference to figure 1 above, Ranke discloses all of the claim limitations including wherein the means for producing a swirl (10, 11) comprise flow channels tilted tangentially against the direction of flow (*see* pg. 11, second paragraph).

15. In re Claim 11, with reference to figure 1 above, Ranke discloses all of the claim limitations including wherein the means for producing a swirl (10, 11) in the gas supply channels are adjustable in order to produce swirl flows of varied intensity (*see* pg. 7, third paragraph).

16. In re Claim 12, with reference to figure 1 above, Ranke discloses all of the claim limitations including wherein in the outside area, the burner (1) has means (14) for cooling by a vapor flow.

17. In re Claims 15 and 16, Ranke discloses all of the claim limitations except for wherein the channel for oxygen-containing gas has a cross section 1.0 to 1.3 times the cross sectional area of the channel for the combustible gas.

18. Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ranke wherein the channel for oxygen-containing gas has a

cross section 1.0 to 1.3 times the cross sectional area of the channel for the combustible gas, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*See for example* US Patent 3,680,999, particularly col. 5, lines 20-25).

19. In re Claims 17 and 18, with reference to figure 1 above, Ranke discloses all of the claim limitations including said outer channel (3) having an exit end (6) inclined toward the inner channel (2).

20. In re Claims 19-21, with reference to figure 1 above, Ranke discloses all of the claim limitations including comprising means (10, 11) for producing a swirl flow in the gas supply channels.

21. In re Claims 23-24, Ranke discloses all of the claim limitations except for wherein the steel containing base is steel.

22. Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ranke wherein the steel containing base is steel, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. (*See for example* US Patent 3,091,548 and US Patent Application Publication 2003/0031972).

Response to Arguments

23. Applicant's arguments with respect to claim 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see form PTO-892 (Notice of References Cited) attached to, or included with, this Office Action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORGE PEREIRO whose telephone number is (571) 270-3932. The examiner can normally be reached on Mon.-Fri. 9:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth B Rinehart/
Supervisory Patent Examiner, Art Unit 3743

Jorge Pereiro
Examiner
Art Unit 3743
